This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An imaging apparatus for producing a Magnetic Resonance (MR) image of a subject, the apparatus comprising:

a magnet assembly for producing a static magnetic field;

a gradient coil assembly for generating a magnetic field gradient for use in producing MR images;

at least one radiofrequency (rf) coil array disposed about the subject for transmitting a radiofrequency pulse and for detecting a plurality of magnetic resonance (MR) signals induced from the subject for a given imaging sequence;

a positioning device for supporting the subject and for translating the subject during imaging; and

a plurality of receivers for receiving the plurality of MR signals configured to adjust a receiver parameter; wherein the receiver parameter is adjusted based on direction of the image parallel to a motion of the subject.~~, the receivers each being adapted to adjust their respective center frequencies at a rate commensurate with a rate of translation of the positioning device~~

~~an image processor for computing a plurality of respective sub-images corresponding to a field of view at a plurality of incremented locations of the subject and wherein the image processor is further adapted to combine a central portion of each sub-image to form a composite image of the subject.~~

2. (Original) The apparatus of claim 1 wherein the at least one rf coil array is mounted on a fixture that is disposed about the subject.

3. (Original) The apparatus of claim 2 wherein the fixture and rf coil array mounted thereon are stationary relative to the static magnetic field.

4. (Original) The apparatus of claim 2 wherein the fixture and rf coil array mounted thereon are moveable relative to the static magnetic field.

5. (Original) The apparatus of claim 1 wherein the at least one rf coil array comprises a plurality of coil elements arranged in a orthogonal distribution relative to a frequency encoding direction.

6. (Original) The apparatus of claim 1 wherein the at least one rf coil array detects the MR signals concurrently with the translation of the positioning device.

7. (Cancelled)

8. (Original) The apparatus of claim 1 wherein the imaging sequence is one of multi-slice, multi-slab, and volume imaging sequences.

9. (Currently Amended) A method for producing an image from an extended volume of interest within a subject using a Magnetic Resonance Imaging (MRI) system where the extended volume of interest is larger than an imaging portion of a magnet within the MRI system, the method comprising:

translating the volume using a positioning device along an axis of the MRI system and imaging portions of the volume when they are within the imaging portion of the magnet;

detecting a plurality of MR signals from at least one radiofrequency (RF) coil array for a given field-of-view within the MRI system as the positioning device is translating the volume;

sending the plurality of MR signals to a plurality of receivers, the receivers each being adapted to adjust a receiver parameter; wherein the receiver parameter is adjusted based on direction of the image parallel to a motion of the subject,

~~adjust their respective center frequencies at a rate commensurate with a rate of translation of the positioning device,~~

computing a plurality of respective sub-images corresponding to the plurality MR signals for each of the plurality of receivers and for the given field-of-view (FOV) at a plurality of incremented locations of the subject; and,

combining the plurality of respective sub-images to form a composite image of the volume of interest, wherein the combining comprises combining a central portion of each sub-image to form the composite image.

10. (Original) The method of claim 9 wherein the at least one rf coil array is mounted on a fixture that is disposed about the subject.

11. (Original) The method of claim 10 wherein the fixture and rf coil array mounted thereon are stationary relative to the static magnetic field.

12. (Original) The method of claim 10 wherein the fixture and rf coil array mounted thereon are moveable relative to the static magnetic field.

13. (Original) The method of claim 9 wherein the at least one rf coil array comprises a plurality of coil elements arranged in a orthogonal distribution relative to a frequency encoding direction.

14. (Original) The method of claim 9 wherein the detecting step is performed concurrently with the translating step.

15. (Original) The method of claim 9 wh rein th translating step is repeated until a selected length of the subject has been imaged inside the imaging portion of the magnet.

16. (Cancelled)

17. (Original) The method of claim 9 wherein the extended volume of interest is a head-to-toe view of the subject.

18. (Currently Amended) A method for imaging an extended volume of interest within a subject using a Magnetic Resonance Imaging (MRI) system comprising:

translating the subject into an imaging portion of a magnet assembly of the MRI system;

detecting a plurality of MR signals from a radiofrequency (RF) coil array; and,

sending the plurality of MR signals to a plurality of receivers, the receivers each being adapted to to adjust a receiver parameter; wherein the receiver parameter is adjusted based on direction of the image parallel to a motion of the subject; and

~~sending the plurality of MR signals to a plurality of receivers, the receivers each being adapted to adjust their respective center frequencies at a rate commensurate with a rate of translation of the positioning device; and,~~

reconstructing at least one image of the volume of interest by computing a plurality of respective sub-images corresponding to the plurality MR signals for each of the plurality of receivers and for the given field-of-view (FOV) at a plurality of incremented locations of the subject as the subject is translated and combining the plurality of respective sub-images to form a composite image of the volume of interest, wherein the combining comprises combining a central portion of each sub-image to form the composite image.

19. (Original) The method of claim 18 wherein the extended volume of interest is a head-to-toe view of the subject.

20. (Original) The method of claim 18 wherein the at least one rf coil array comprises a plurality of coil elements arranged in orthogonal distribution to a frequency encoding direction.

21. (Original) The method of claim 18 wherein the at least one rf coil array is mounted on a fixture that is disposed about the subject.

22. (Original) The method of claim 21 wherein the fixture and rf coil array mounted thereon are stationary relative to the static magnetic field.

23. (Original) The method of claim 21 wherein the fixture and rf coil array mounted thereon ar moveable relative to the static magnetic field.

24. (Original) The method of claim 18 wherein the detecting step is performed concurrently with the translating step.

25. (Original) Th method of claim 18 wherein th translating step is repeated until a selected length of the subject has been imaged.

26. (Original) The method of claim 18 wherein the translating step is substantially continuous.

27. (New) The imaging apparatus of claim 1, wherein the receiver parameter comprises a receiver frequency, and wherein the receiver frequency is adjusted in response to a translation of the positioning device; wherein the receiver frequency is adjusted when a frequency encoding direction of the image is parallel to an axis of a motion of the subject.

28. (New) The imaging apparatus of claim 1, wherein the receiver parameter comprises a receiver phase, and wherein the receiver phase is adjusted in response to a translation of the positioning device; and wherein the receiver phase is adjusted when a phase encoding direction of the image is parallel to an axis of a motion of the subject.

29. (New) The imaging apparatus of claim 1, wherein the rf coil array is configured to adjust a transmit frequency in response to a translation of the positioning device; and wherein the transmit frequency is adjusted when a slice selection direction of the image is parallel to an axis of a motion of the subject.

30. (New) The imaging apparatus of claim 1, further comprising an image processor for computing a plurality of respective sub-images corresponding to a field-of-view at a plurality of incremented locations of the subject and wherein the image processor is further adapted to combine a central portion of each sub-image to form a composite image of the subject.

31. (New) The imaging apparatus of claim 30, wherein sub-images acquired from each receiver is offset by a fraction of the field of view, wherein the fraction of the field of view equals the field of view divided by a number of receivers.

32. (New) The method of claim 9, wherein the receiver parameter comprises a receiver frequency, and wherein the receiver frequency is adjusted in response to a translation of the positioning device; wherein the receiver frequency is adjusted when a frequency encoding direction of the image is parallel to an axis of a motion of the subject.

33. (New) The method of claim 9, wherein the receiver parameter comprises a receiver phase, and wherein the receiver phase is adjusted in response to a translation of the positioning device; and wherein the receiver phase is adjusted when a phase encoding direction of the image is parallel to an axis of a motion of the subject.

34. (New) The method of claim 9, wherein the rf coil array is configured to adjust a transmit frequency in response to a translation of the positioning device; and wher in the transmit frequency is adjusted when a slice selection direction of the image is parallel to an axis of a motion of the subject.

35. (New) The method of claim 9, wherein the computing of the sub-images acquired from *each* receiver is offset by a fraction of the field of view, wherein the fraction of the field of view equals the field of view divided by a number of receivers.

36. (New) The method of claim 18, wherein the receiver parameter comprises a receiver frequency, and wherein the receiver frequency is adjusted in response to a translation of the positioning device; wherein the receiver frequency is adjusted when a frequency encoding direction of the image is parallel to an axis of a motion of the subject.

37. (New) The method of claim 18, wherein the receiver parameter comprises a receiver phase, and wherein the receiver phase is adjusted in response to a translation of the positioning device; and wherein the receiver phase is adjusted when a phase encoding direction of the image is parallel to an axis of a motion of the subject.

38. (New) The method of claim 18, wherein the rf coil array is configured to adjust a transmit frequency in response to a translation of the positioning device; and wherein the transmit frequency is adjusted when a slice selection direction of the image is parallel to an axis of a motion of the subject.

39. (New) The method of claim 18, wherein the computing of the sub-images acquired from each receiver is offset by a fraction of the field of view, wherein the fraction of the field of view equals the field of view divided by a number of receivers.